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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,397	03/21/2001	Janani Janakiraman	AUS9-2001-0094-US1	3885
7590	06/23/2004		EXAMINER	
Barry S. Newberger 100 Congress Avenue, Suite 800 Austin, TX 78701			PATEL, JAYANTI K	
			ART UNIT	PAPER NUMBER
			2625	b
			DATE MAILED: 06/23/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/814,397	JANAKIRAMAN ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Jayanti K. Patel	2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 April 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 3/21/2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Response to Amendment***

1. The amendment filed April 19, 2004 is entered.

### ***Response to Arguments***

2. Applicant's arguments filed April 19, 2004 have been fully considered but they are not persuasive.
3. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Ritchey provides Komsthoeft interactive input devices operable by a viewer to cause generation, alteration, display 3-D images on the display and associated 3-D audio systems with interactive and feedback devices and processing means such that the resultant virtual environment is simultaneously effected.

As to the applicant's argument regarding "outputting a nonvisual cue corresponding to a depth value", contrary to the applicant's assertion, these limitations are taught by Ritchey repeatedly specifically, "These views are presented to the participant in the correct horizontal location, resulting in the depth cues of stereopsis and (horizontal)

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motion parallax. The 2-D perspective views are generally imaged at a particular depth position, and are multiplexed by horizontal angle of view" (column 30, lines 58-64).

As system of Ritchey multiplexes several views exhibiting occlusion (nonvisual) and specular reflections. As to depth map, the systems of Komsthoeft (abstract, lines 1-10) and Ritchey (column 7, lines 30-65) deal with such depth map processing including 3D graphics and audio signals in great detail. Additionally, "assigning a depth value corresponding to said depth information for each corresponding to said image" is notoriously well known in any 3D graphic processing system including Komsthoeft, Ritchey and other art made of record in last office action.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 3-8, 10-15, 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komsthoeft et al. (US 6,664,962) in view of Ritchey et al. (US 5,495,576).

Regarding claim 15, Komsthoeft discloses a shadow mapping graphic system comprising:

a circuitry operable for scanning a depth map corresponding to an image, in response to user input (column 8, line 56 through column 9, line 5).

Komsthoeft discloses the process of outputting a limited graphics data (column 8, lines 25-45) without specific details regarding outputting a nonvisual cue corresponding to the depth map.

In the same field of endeavor, however, Ritchey discloses a virtual reality system comprising the circuitry for outputting a nonvisual cue corresponding to a depth value in the map for each pixel scanned (column 30, line 52 through column 31 line 66).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use outputting circuitry as taught by Ritchey in the system of Komsthoeft because Ritchey provides Komsthoeft with an interactive input device that would simplify the computing task.

As to claims 17-18, Komsthoeft discloses the depth image being received in response to a web page containing the image (figure 15) and required circuitry (figure 2, element 59).

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As to claims 19 and 21, Komsthoeft discloses circuitry operable for performing depth analysis of a set of images associated with the image (figure 3, element 114) and operable for assigning depth value corresponding to each pixel of the image (column 8, lines 24-54).

As to claim 20, Komsthoeft discloses set of images associated with the image being selected from the group consisting of a stereographic pair including image and a plurality of images operable for displaying motion (column 1, lines 22-55). Additionally, such systems for processing stereographic images displayed routinely with motion, as being evidenced by other prior art made of record in the instant application.

As to claims 1, 3-7, steps claimed as method is nothing more than restating the function of the specific components of the apparatus as claimed above and therefore, it would have been obvious, considering the aforementioned rejection for the apparatus claims 15, 17-21.

As to claims 8, 10-14, the steps claimed as computer program product is nothing more than restating the function of the specific components of the apparatus as claimed above and therefore, it would have been obvious, considering the aforementioned rejection for the apparatus claims 15, 17-21.

6. Claims 2, 9, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komsthoeft et al. (US 6,664,962) in view of Ritchey (US 5,495,576) as applied to claims 1, 3-8, 10-15, 17-21 above and further in view of Keyson (US 5,784,052).

As to claims 2, 9 and 16, while Komsthoeft and Ritchey are silent about the

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specific details regarding the output being selected from the group of auditory cues and tactile cues, Keyson discloses a 3D coordinates data processing system processing wherein the cue being selected from the group consisting of auditory cues or tactile cues (column 4, lines 45-59).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select cue as taught by Keyson in the systems of Komsthoeft and Ritchey because Keyson provides Komsthoeft and Ritchey with a data processing system that would require minimum time to interpret feedback. In addition, users take advantage of a catching effect, whereby knowledge that the system will catch the cursor when catering the target area leads to the faster movement behavior.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jayanti K. Patel whose telephone number is (703) 308-7728. The examiner can normally be reached on Monday-Friday (7:00-4:00), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JKP

June 18, 2004

  
Jayanti K. Patel  
Primary Examiner